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OWNER'S & INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product. Installation work must be performed in accordance with the national wiring standards by authorized personnel only. This equipment shall be provided with a supply conductor complying with the national regulation.

PDI Premium
PQNUD1S40

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MFL67982922
Rev.03_111121

www.lg.com

TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed tightly while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number :

Serial number :

You can find them on a label on the side of each unit.

Dealer's name :

Date of purchase :

SAFETY INSTRUCTIONS

The following safety guidelines are intended to prevent unforeseen risks or damage from unsafe or incorrect operation of the appliance.
The guidelines are separated into 'WARNING' and 'CAUTION' as described below.

⚠ This symbol is displayed to indicate matters and operations that can cause risk.
Read the part with this symbol carefully and follow the instructions in order to avoid risk.

⚠ WARNING

This indicates that the failure to follow the instructions can cause serious injury or death.

⚠ CAUTION

This indicates that the failure to follow the instructions can cause the minor injury or damage to the product.

⚠ WARNING

Installation

- Be sure to request to the service center or installation specialty store when installing products. It will cause fire or electric shock or explosion or injury.
- Request to the service center or installation specialty store when reinstalling the installed product. It will cause fire or electric shock or explosion or injury.
- Do not disassemble, fix, and modify products randomly. It will cause fire or electric shock.

Operation

- Do not place flammable stuffs close to the product. It will cause fire.
- Do not allow water to run into the product. It will cause electric shock or breakdown.

- Do not give the shock to the product.
  It will cause breakdown when giving the shock to the product.
- Request to the service center or installation specialty store when the product becomes wet. It will cause fire or electric shock.
- Do not give the shock using sharp and pointed objects.
  It will cause breakdown by damaging parts.

⚠ CAUTION

Installation

- The appliance is only to be used with the power supply unit provided with the appliance.
- Do not install the unit in potentially explosive atmospheres.

Operation

- Do not clean using the powerful detergent like solvent but use soft cloths.
  It will cause fire or product deformation.
- Do not press the screen using powerful pressure or select two buttons.
  It will cause product breakdown or malfunction.
- Do not touch or pull the lead wire with wet hands.
  It will cause product breakdown or electric shock.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Disposal of your old appliance

1. This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WEEE) should be disposed of separately from the municipal waste stream.
2. Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
3. You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see www.lg.com/global/recycling

According to IEC 60335-1

This appliance is not intended for use by person (including children) with reduced physical, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

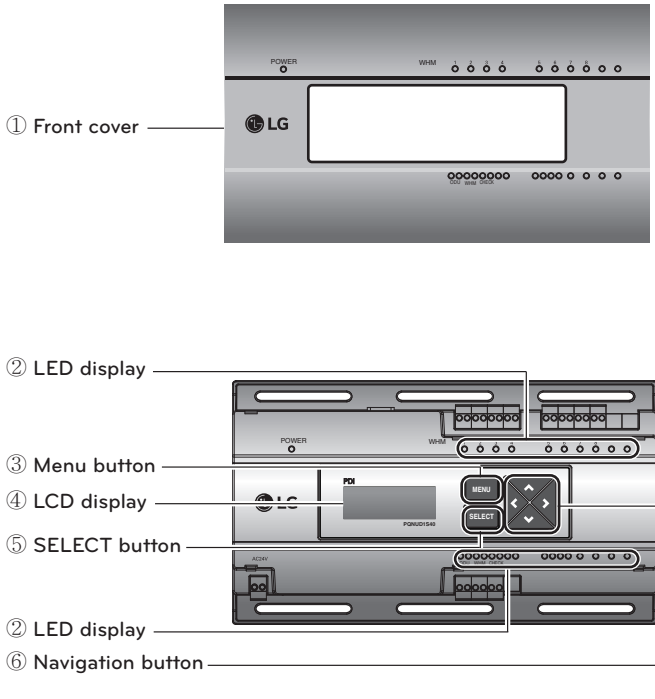
According to EN 60335-1

This appliance can be used by children aged from 8 years and above and person with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.)

ENGLISH

TABLE OF CONTENTS

NAME OF EACH PART



① Front cover

② LED display Displays current status of power indicator

③ Menu button Use for checking initial setting and electric power

④ LCD display Displays setting information and power usage

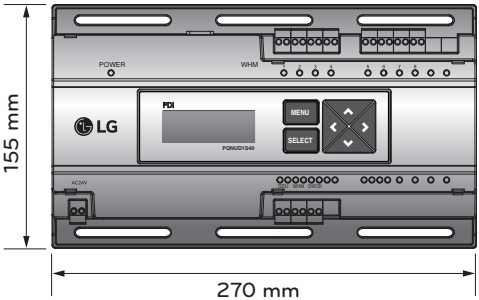
⑤ SELECT button Use for initial setting

⑥ Navigation button Use for checking initial setting and electric power

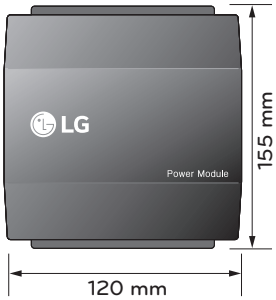
⑦ Power supply Supply power for power indicator

ENGLISH

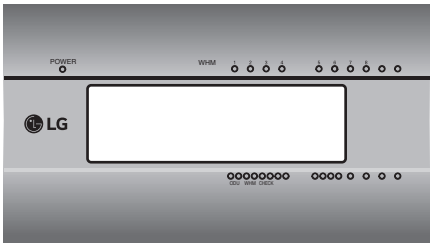
COMPONENTS



Power indicator

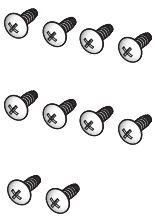


Power supply



Front cover

Manual



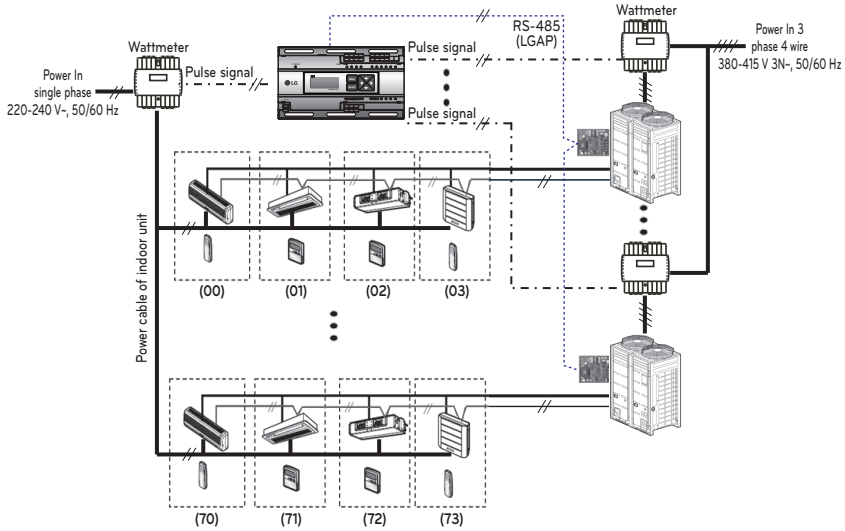
Screws

INSTALLATION METHOD

Diagram of overall product configuration

When interlocked to pulse type wattmeter

• When interlocked to EHP product
- Independent Operation of Power Indicator (interlocked to EHP products)



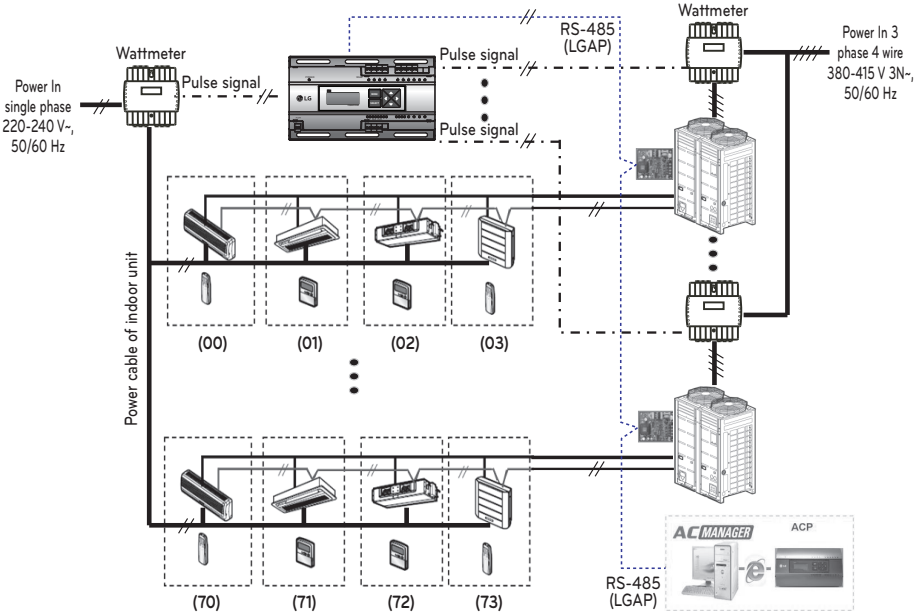
: Power cable for 3 phase 4 wire
: Power cable for single phase
: Communication cable (2 wire shielded cable): Between outdoor unit and central controller
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Pulse signal wire
: Refrigerant pipe

⚠ CAUTION

- Depending on the electric power, use the wattmeter for remote reading by sending the pulse signal.
- Use the wattmeter with the pulse width of 50 ms ~ 400 ms.
- The wattmeter pulse must be able to sink at least 3 mA or more of current in the power indicator.
- Use the wattmeter of 1 W/pulse, 2 W/pulse, 4 W/pulse, 6 W/pulse, 8 W/pulse, 10 W/pulse, 100 W/pulse and PT/CT (1 ~ 50 000).
- When setting the wattmeter, set it to Master Mode.
- Maximum of 8 wattmeters can be installed.
- The distance between power indicator and wattmeter should be shorter than 50 m in normal circumstance.
- When electrical or mechanical noise is expected, more shorter wiring is needed.
- For watt-hour meter setting, inquire to the corresponding vendor.

❇ EHP (Electric Heat Pump): It is an electric air conditioner to drive the compressor by electric power.

• Interlocked Operation with Central Controller (interlocked to EHP product)



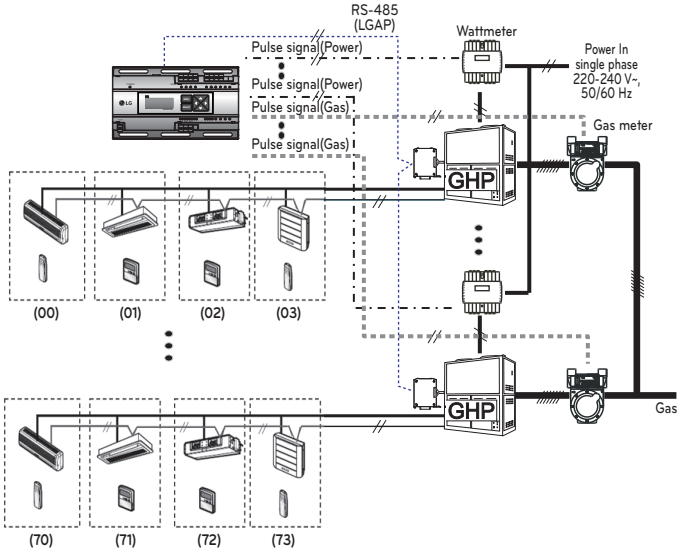
: Power cable for 3 phase 4 wire
: Power cable for single phase
: Communication cable (2 wire shielded cable): Between outdoor unit and central controller
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Pulse signal wire
: Refrigerant pipe

⚠ CAUTION

- Depending on the electric power, use the wattmeter for remote reading by sending the pulse signal.
- Use the wattmeter with the pulse width of 50 ms ~ 400 ms.
- The wattmeter pulse must be able to sink at least 3 mA or more of current in the power indicator.
- Use the wattmeter of 1 W/pulse, 2 W/pulse, 4 W/pulse, 6 W/pulse, 8 W/pulse, 10 W/pulse, 100 W/pulse and PT/CT (1 ~ 50 000).
- When setting the wattmeter, set it to Slave Mode.
- Maximum of 8 wattmeters can be installed.
- The distance between power indicator and wattmeter should be shorter than 50 m in normal circumstance.
- When electrical or mechanical noise is expected, more shorter wiring is needed.
- For watt-hour meter setting, inquire to the corresponding vendor.

• When interlocked to GHP product

- Independent Operation of Power Indicator (interlocked to GHP product)



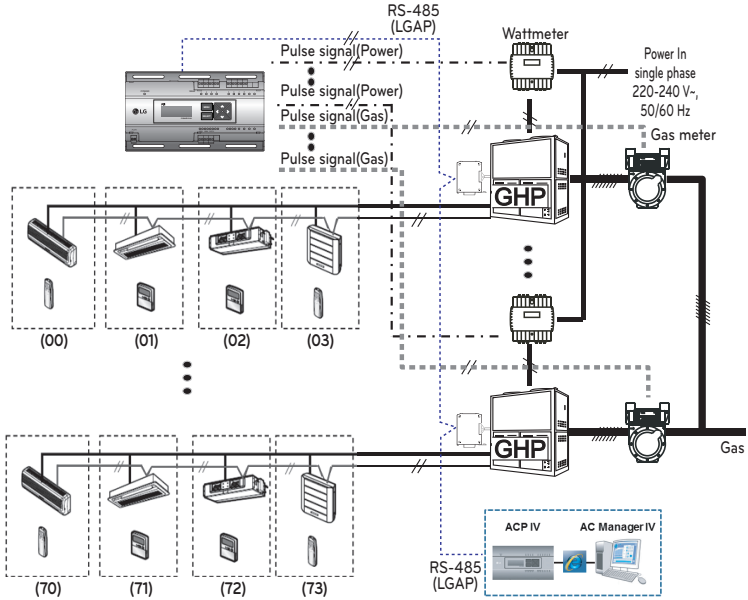
: Power cable for single phase
: Communication cable (2 wire shielded cable): Between outdoor unit and central controller
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Pulse signal wire
: Refrigerant pipe
: Gas pipe
: Pulse signal wire(Gas)

⚠ CAUTION

- Use the wattmeter for remote reading to send pulse signal depending on wattage.
- Use the wattmeter with the pulse width of 50 ms ~ 400 ms.
- The wattmeter pulse must be able to sink at least 3 mA or more of current in the power indicator.
- Use the wattmeter for 1 W/Pulse, 2 W/Pulse, 4 W/Pulse, 6 W/Pulse, 8 W/Pulse, 10 W/Pulse, 100 W/Pulse, PT / CT (1 ~ 50 000).
- Use the gas meter for remote reading to send pulse signal depending on gas consumption.
- Use the gas meter with the pulse width of 50 ms or more.
- Use the gas meter containing the max. gas pressure of 0.2 m^3/h ~ 10 m^3/h.
- Gas meter pulse must be able to sink at least 3 mA of current or more in the power indicator.
- Use the gas meters for 1 ℓ / Pulse, 2 ℓ / Pulse, 4 ℓ / Pulse, 6 ℓ / Pulse, 8 ℓ / Pulse, 10 ℓ / Pulse, 100 ℓ / Pulse, VT / Pr (1 ~ 50 000).
- Set to Master Mode when setting the wattmeter or gas meter.
- Wattmeter or gas meter can be installed up to 4.
- Connection cable for the power indicator and wattmeter (gas meter) must not exceed 50 m in normal circumstance.
- Reduce the length of connection cable if there is any electrical or mechanical noise on the site.
- For watt-hour meter and gas meter setting, inquire to the corresponding vendor.

✻ GHP (Gas engine Heat Pump): It is a gas air-conditioner to drive the compressor with LNG or LPG as a heat source and the gas engine electric power.

- When linked with the GHP product, the central controller is linked only possible model of ACS IV series or later.



: Power cable for single phase
: Communication cable (2 wire shielded cable): Between outdoor unit and central controller
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Pulse signal wire
: Refrigerant pipe
: Gas pipe
: Pulse signal wire(Gas)

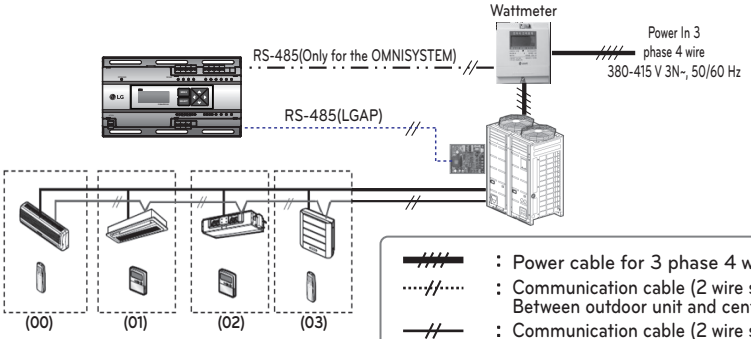
⚠ CAUTION

- Use the wattmeter for remote reading to send pulse signal depending on wattage.
- Use the wattmeter with the pulse width of 50 ms ~ 400 ms.
- The wattmeter pulse must be able to sink at least 3 mA or more of current in the power indicator.
- Use the wattmeter for 1 W/Pulse, 2 W/Pulse, 4 W/Pulse, 6 W/Pulse, 8 W/Pulse, 10 W/Pulse, 100 W/Pulse, PT / CT (1 ~ 50 000).
- Use the gas meter for remote reading to send pulse signal depending on gas consumption.
- Use the gas meter with the pulse width of 50 ms or more.
- Use the gas meter containing the max. gas pressure of 0.2 m^3/h ~ 10 m^3/h.
- Gas meter pulse must be able to sink at least 3 mA of current or more in the power indicator.
- Use the gas meters for 1 ℓ / Pulse, 2 ℓ / Pulse, 4 ℓ / Pulse, 6 ℓ / Pulse, 8 ℓ / Pulse, 10 ℓ / Pulse, 100 ℓ / Pulse, VT / Pr (1 ~ 50 000).
- Set to Slave Mode when setting the wattmeter or gas meter.
- Wattmeter or gas meter can be installed up to 4.
- Connection cable for the power indicator and wattmeter (gas meter) must not exceed 50 m in normal circumstance.
- Reduce the length of connection cable if there is any electrical or mechanical noise on the site.
- For watt-hour meter and gas meter setting, inquire to the corresponding vendor.

When interlocked to RS-485 type wattmeter (EHP products only)

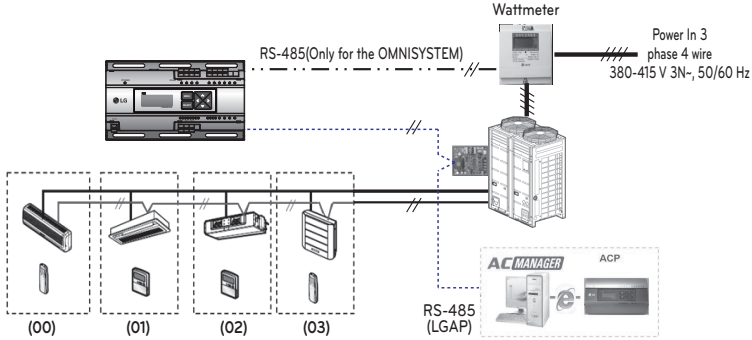
Interlock function with RS-485 type wattmeter is available only for EHP products.

• Independent Operation of Power Indicator



: Power cable for 3 phase 4 wire
: Communication cable (2 wire shielded cable): Between outdoor unit and central controller
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Refrigerant pipe

• Interlocked operation with central controller



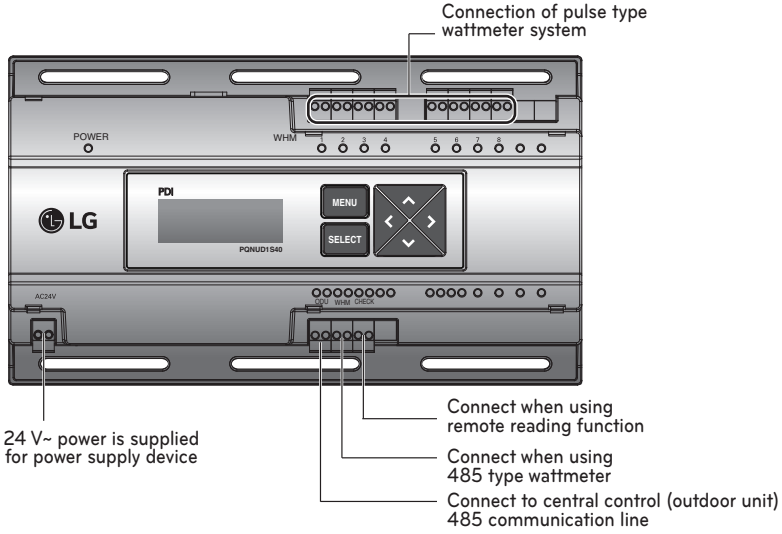
: Power cable for 3 phase 4 wire
: Communication cable (2 wire shielded cable): Between outdoor unit and central controller
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit
: Refrigerant pipe

⚠ CAUTION

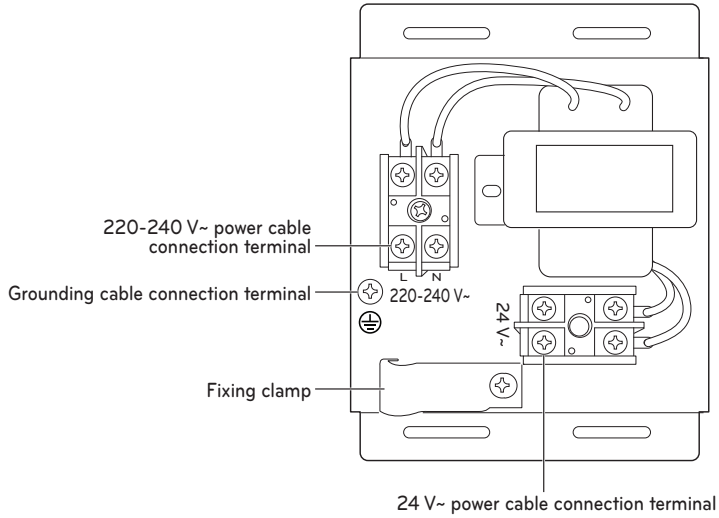
- Use the wattmeter (Interlock function with OMNISYSTEM only) that sends the electric energy through 485 communications.
- When setting the wattmeter, set to Master Mode for independent operation and Slave Mode for interlocked operation.
- When using the 485 wattmeter, maximum of 1 unit can be installed.
- For 485 watt-hour meter setting, inquire to the corresponding vendor

How to wire the product (when EHP product is connected)

Wiring Power Indicator



Wiring Power Supply

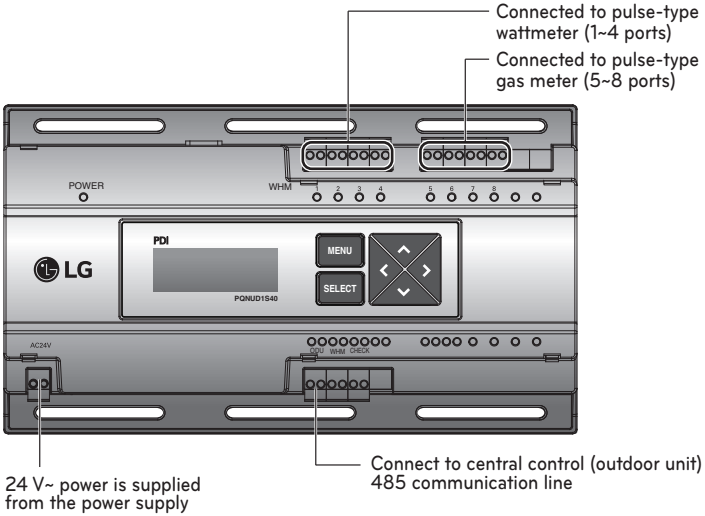


⚠ CAUTION

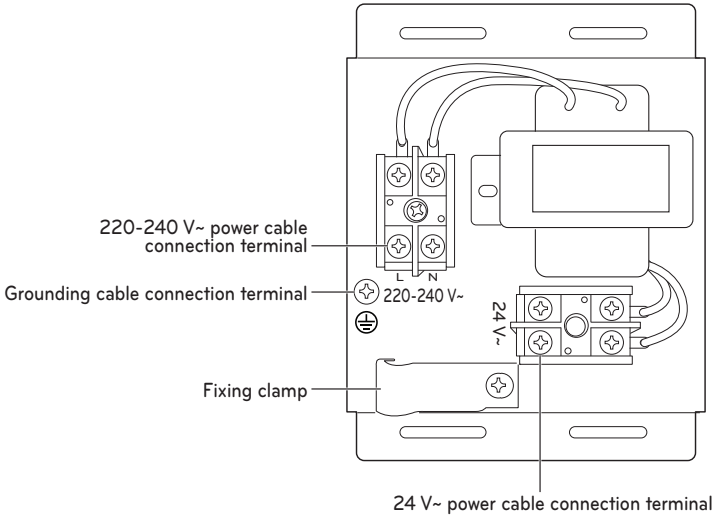
- Power must be turned on after the product is wired completely.

How to wire the product (when GHP product is connected)

Wiring Power Indicator



Wiring Power Supply



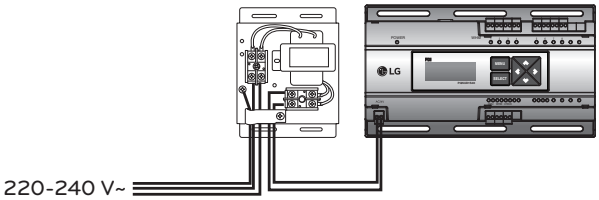
⚠ CAUTION

- Power supply must be applied after wiring the product is completed, if applicable.

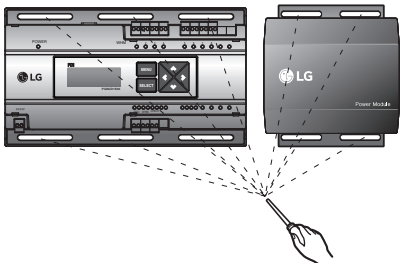
Wiring

- Separate the power supply case.
- Loosen the clamp fixating the power supply.
- Connect the 220-240 V~ power cable to the black and grounding terminal.
- Connect the 24 V~ power cable to the yellow terminal.
- Use the clamp to fixate the 220-240 V~ and 24 V~ power cable.
- Use the screw to assemble the case.
- Use the included screws to fixate the power indicator and power supply at appropriate locations within the electric panel.
- Connect the 24 V~ power cable connected to the power supply to the power terminal of the power indicator.
- Wire wattmeter, gas meter, central controlled communication cable, and the repeater for remote reading.

Power connection

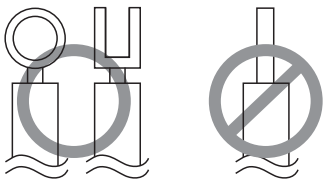


Mounting on wall



⚠ WARNING

- Always tighten the terminal screws so that they do not become loose.
- When connecting the power and communication cable, always use the terminal (O-Ring, Y-Ring).
- For 220-240 V~ power cable, use (CV) 1.5 mm^2 x 3 and for 24 V~ power cable, use the CV wire.



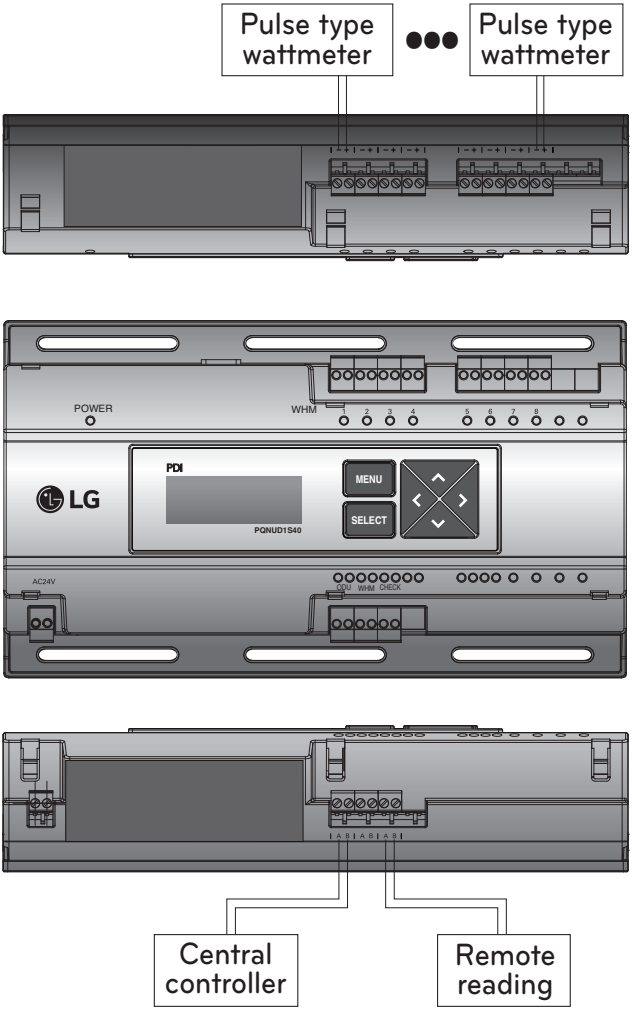
⚠ CAUTION

- Power must be turned on after the product is wired completely.
- When power is removed and then applied again, power on after 2 minutes.

Connect the wattmeter and communication cable (EHP products)

When connecting the pulse-type wattmeter

• Independent Operation of Power Indicator (interlocked to EHP product)

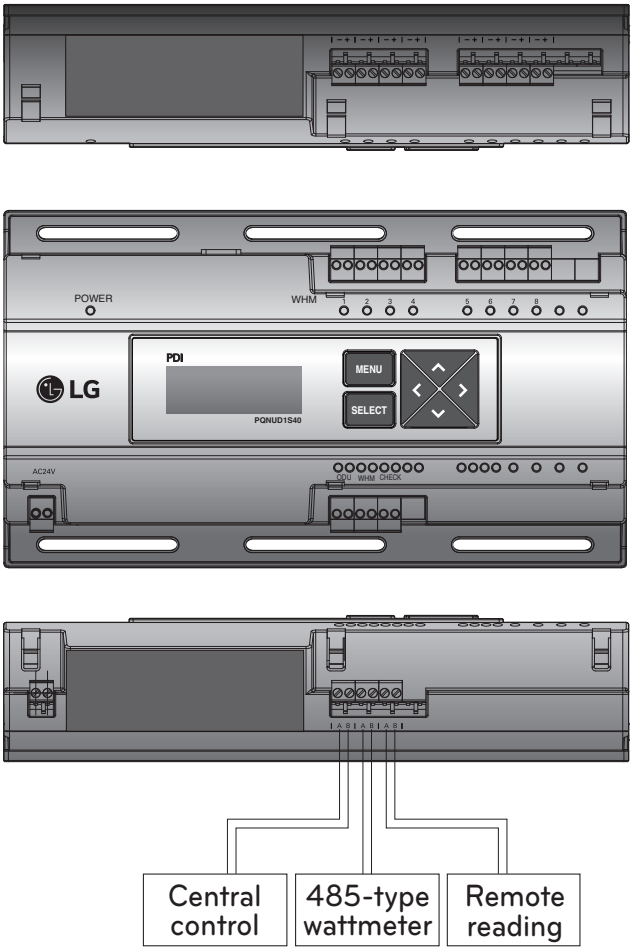


⚠ CAUTION

- The color and polarity of the signal wire may be different from the details indicated on the case depending on the manufacturer of wattmeter. [Black: (-), white: (+)]
- When connecting the 485 communication cable, make sure to check the A, B polarity.
- After connecting the wattmeter, check whether the signal is connected through the LED.
- Power indicator and Pulse Type wattmeter must be installed in same panel.

When connected to RS-485 type wattmeter

• Interlock function with RS-485 type wattmeter is available only for EHP products.

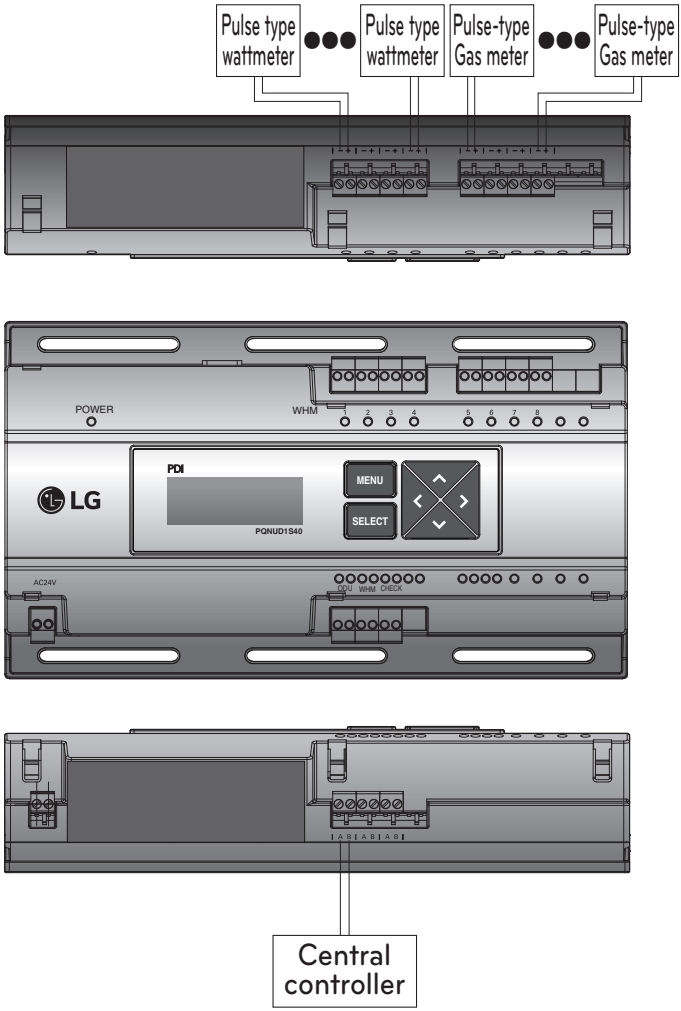


⚠ CAUTION

- The color and polarity of the signal wire may be different from the details indicated on the case depending on the manufacturer of wattmeter. [Black: (-), white: (+)]
- When connecting the 485 communication cable, make sure to check the A, B polarity.
- After connecting the wattmeter, check whether the signal is connected through the LED.
- Power indicator and Pulse Type wattmeter must be installed in same panel.

Connection of wattmeter, gas meter and communication cable (GHP products)

When connecting the pulse-type wattmeter / gas meter



⚠ CAUTION

- The color and polarity of the signal wire may be different from the details indicated on the case depending on the manufacturer of wattmeter. [Black: (-), white: (+)]
- When connecting the 485 communication cable, make sure to check the A, B polarity.
- After connecting the wattmeter, check whether the signal is connected through the LED.
- Install the power indicator and the pulse-type wattmeter on the same panel.
- Make sure that the pulse lines of the wattmeter and gas meter are connected to the correct positions (wattmeter : 1~4 ports, gas meter : 5~8 ports)

SETTING AND USING METHOD

Glossary

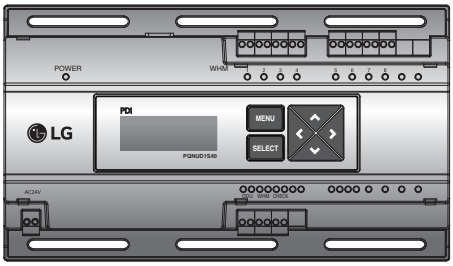
- EHP (Electric Heat Pump)
  It is an electric air conditioner to drive the compressor by electric power.
- GHP (Gas engine Heat Pump)
  GHP is a gas air conditioner to drive the compressor with LNG and LPG gas as a heat source and power supply for gas engine.
- WHM: wattmeter
- LHM: gas meter
- ODU: Outdoor Unit
- IDU: Indoor Unit
- REMOTE COM: remote meter reading company
- STANDBY P: Standby Power
- NOT USE: setting as disabled
- CT: deflector device
- PT: transforming equipment
- VT: volume adjustment device
- Pr: gauge integer

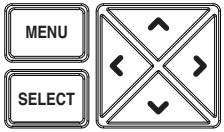
Setting

Description of button function

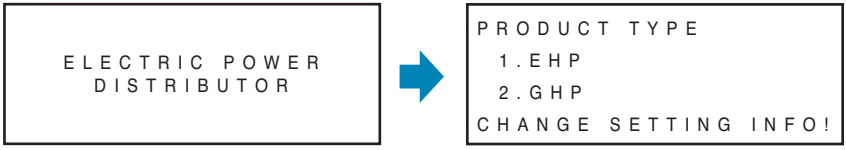
- Menu button: Move to standby screen after setting is completed. Use for reading wattmeter
- Direction button: Move to item to set
- SELECT button: Enter applicable setting window and set changed information

Enter function setting mode



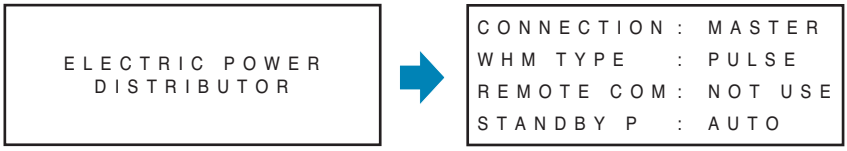


- If entering the setting screen for the first time.
  - After turning power on, press the 'MENU' button and the 'SELECT' button at the same time and the screen will change to the screen where you can select the product connection type. Select the product type to connect, and then press the 'SELECT' button. Then, the selection of the product will be saved and the screen will be switched to the main standby screen.



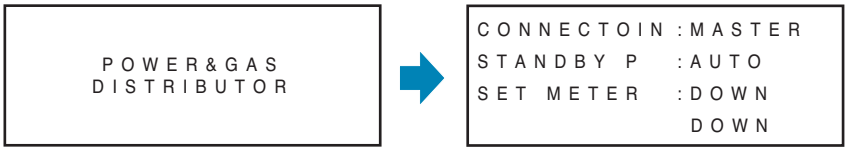
<Main standby screen> <Connection Product Type Setting Screen>

• If after selecting the connection product type at least once, you are entering the setting screen.
- After turning power on, press the 'MENU' button and the 'SELECT' button at the same time and then will be switched to the function setting screen.



<Main standby screen> <Function setting screen>

• After selecting GHP product



<Main standby screen> <Function Setting Screen>

• The item with letters blinking is the current setting location on the function setting screen.

※ If you want to change the connection type of product
- On the function setting screen, press the (▲) button and (▼) button simultaneously, and then you can enter the connected product type setting screen.

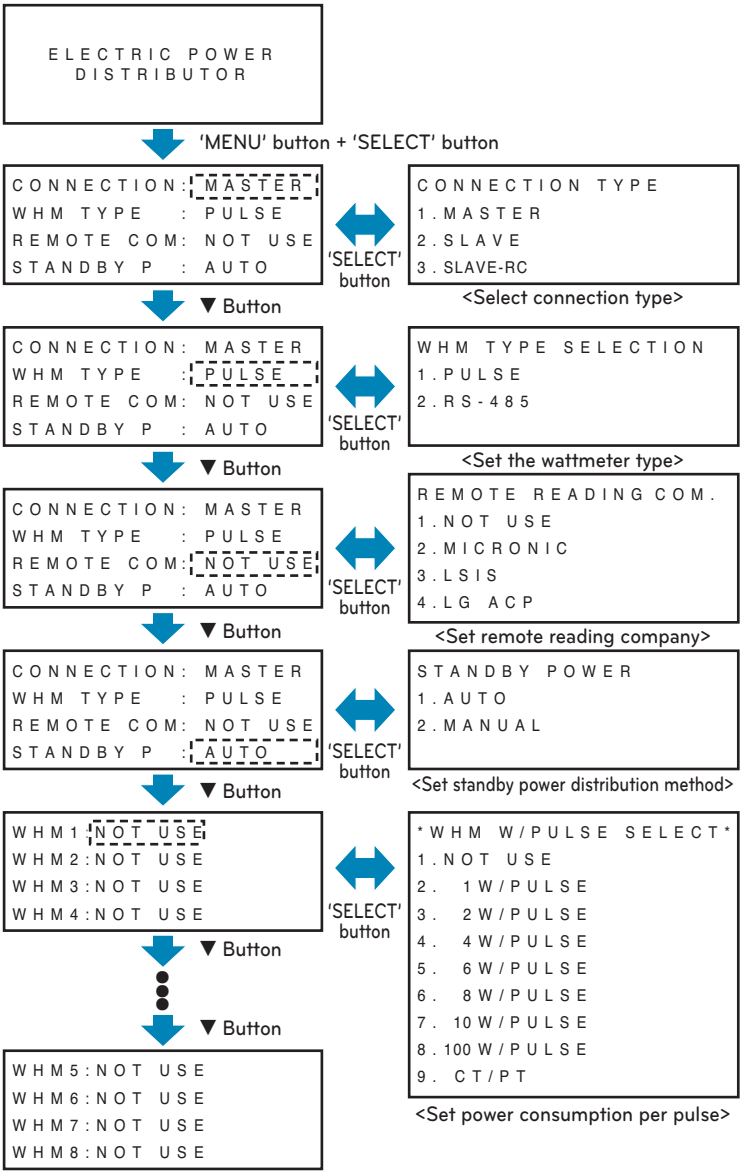
⚠ CAUTION

• Power indicator setting only can be changed during the 20 minutes after turning on the power. Twenty (20) minutes later, if you need to change settings, turn the power indicator on again.

Setting up detailed functions (EHP products)

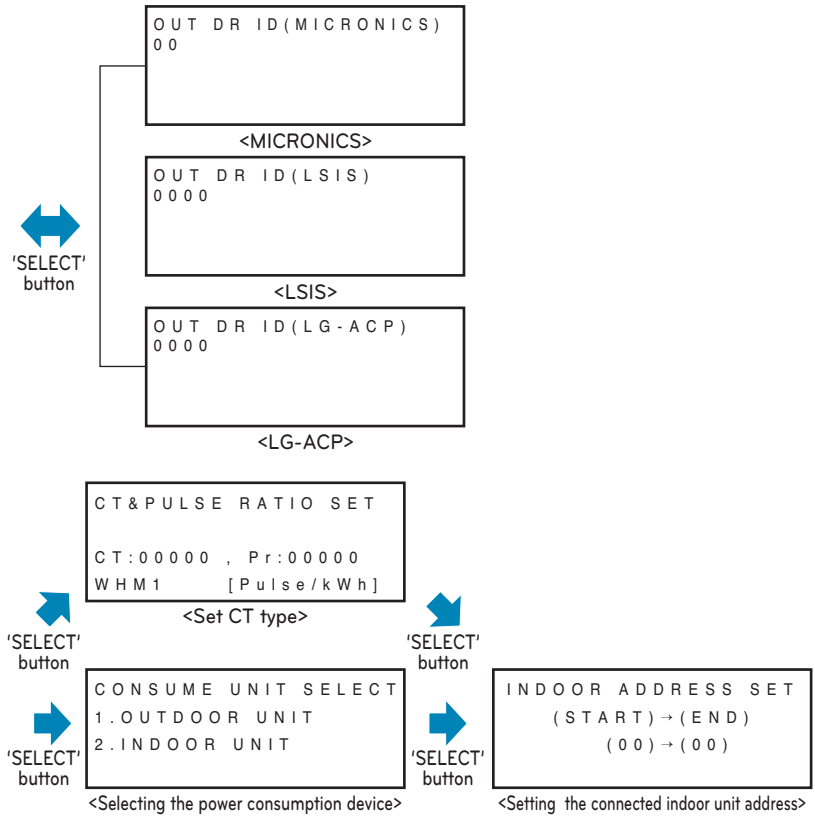
Flowchart for how to set up functions (EHP products)

While EHP product is selected, set the detailed functions of the power indicator with reference to the flowchart below



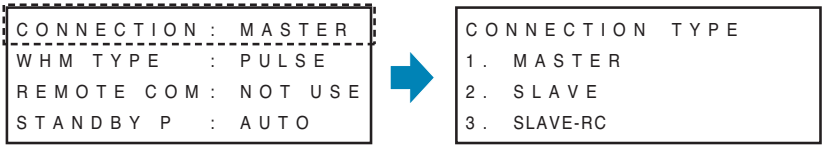
⚠ CAUTION

- Power indicator setting only can be changed during the 20 minutes after turning on the power. Twenty (20) minutes
  Twenty (20) minutes later, if you need to change settings, turn the power indicator on again.



Setting functions (EHP products)

• Connection type setting: Setting based on system configuration
- In case of power indicator single composition: MASTER
- In case of central controller interface: SLAVE
※ If one unit of SLAVE is set as SLAVE-RC, protection logic for distribution error by central controller failure is operated.

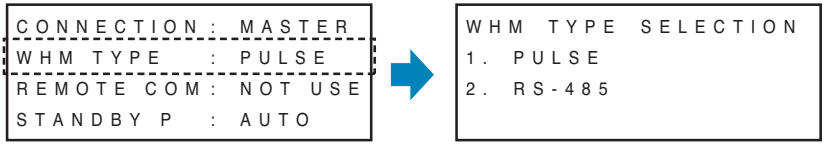


➔ When the CONNECTION item flashes, press the SELECT button to enter the setting window. Press the SELECT button at the item to set to save the setting and return to the initial setting screen.

⚠ CAUTION

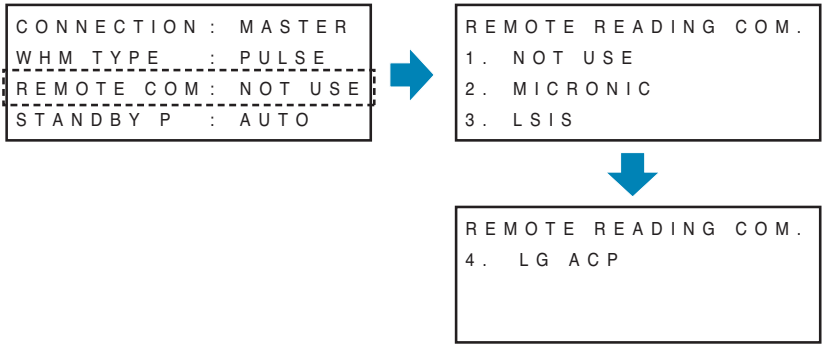
• When you set the connection type, you need to set only one unit as SLAVE RC Type.

• Wattmeter type setting: Setting based on connected wattmeter.
- Pulse: When using wattmeter that sends electric energy as pulse signal
- RS-485: When using wattmeter that sends electric energy via RS-485 communication



➔ When the WHM TYPE item flashes, press the SELECT button to enter the setting window. Press the SELECT button at the item to set to save the setting and return to the initial setting screen.

• Whether to use remote reading and set the reading company
- NOT USE: Not use the remote reading function
- Set the remote reading company to use



➔ When the REMOTE COM item flashes, press the SELECT button to enter the setting window. When the name of the applicable remote reading company flashes, press the SELECT button to set the remote reading company and move to the address input window.

- Address setting based on remote reading company setting

* When setting Micronics: 00,06,12,18…(Increase by 6 units)

```
OUT DR ID (MICRONICS)
00
```

* When setting LS Industrial Systems: Can be changed to 0000-9999 (Increase by 2 units)

```
OUT DR ID (LSIS)
0000
```

* When setting to ACP: Can be changed to 00-99

```
OUT DR ID (LG-ACP)
00 00
```

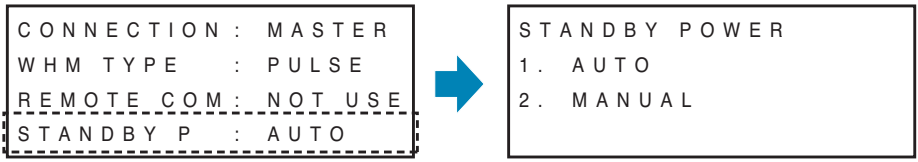
➔ After entering the remote reading ID, press the SELECT button to save the setting and return to the initial setting screen.

⚠ CAUTION

- When setting the remote reading ID, enter the ID assigned by the remote reading company.

• Standby power distribution method setting

Standby power: Power consumed by outdoor unit when all indoor units are turned off
- AUTO: Automatically distributes the standby power to all connected indoor units
- Manual: Does not distribute the standby power and saves separately



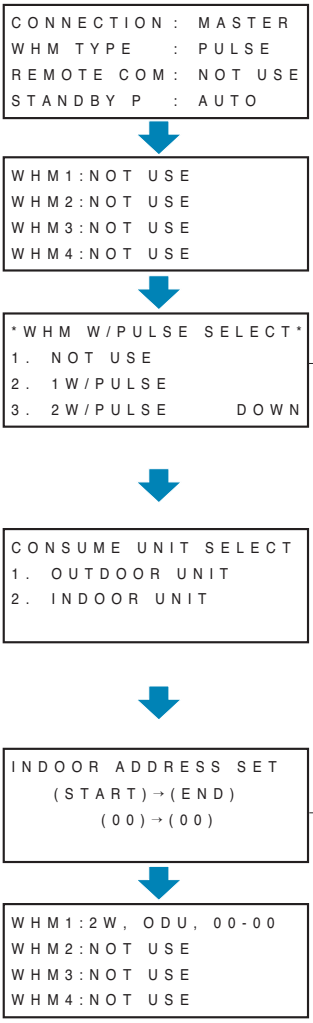
➔ When the STANDBY P item flashes, press the SELECT button to enter the setting window. Press the SELECT button at the item to set to save the setting and return to the initial setting window.

⚠ CAUTION

• Factor default is MASTER, PULSE, NOT USE and AUTO.

Setting detailed properties (EHP products)

- **Wattmeter property setting: Based on the wattmeter type setting, it automatically switches to property setting screen.**
  - Pulse type: Set power consumption by pulse, set attached location (Indoor/Outdoor unit classification), set indoor unit address
  - CT type: Set CT and device constant value, set attached location (Indoor/Outdoor unit classification), set indoor unit address
  - RS-485 communication type: Set wattmeter address, set attached location (Indoor/Outdoor unit classification), set indoor unit address
- **When setting pulse type**



Press the (▼) button at the initial setting screen to enter the wattmeter property setting screen.

When the wattmeter item to set flashes, press the SELECT button to change to detail setting window.

It proceeds in the order of Set power consumption by pulse → Set power consumption device → Set connected indoor address.

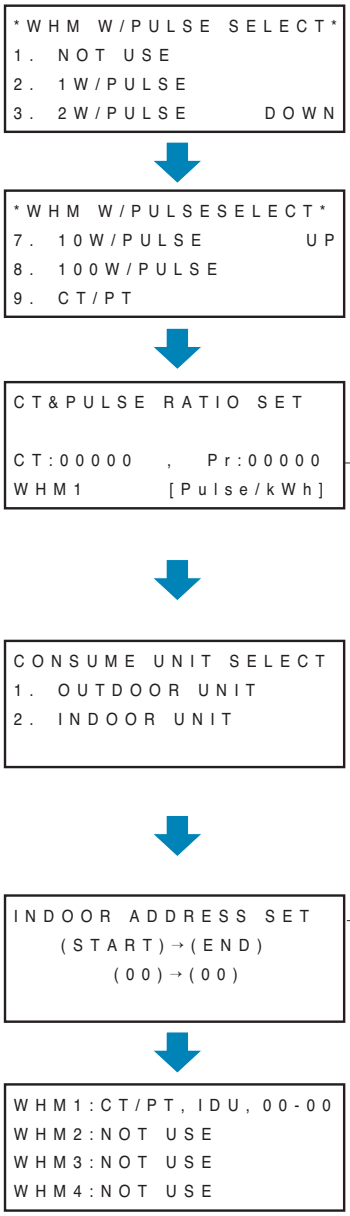
- Set power consumption by pulse (WHM W/PULSE SELECT)
  : Enter the value displayed on the wattmeter as power consumption per pulse
- Set power consumption device (CONSUME UNIT SELECT)
  : Check and set whether the product on which the wattmeter is installed is a indoor or outdoor unit.
  ※ If one indoor unit is set to use both outdoor unit power distribution and indoor unit power distribution, wattage value is displayed as indoor unit wattage value by summing outdoor unit power distribution value and indoor unit power distribution value.
- Set connected indoor address (INDOOR ADDRESS SET)
  : Enter the indoor address connected to applicable wattmeter.
  ※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

Setting information is reflected to the detail setting window.

After setting all wattmeters, press the MENU button to save the setting and move to the initial screen.

• When setting CT type



Press the (▼) button to set CT/PT from the power consumption setting screen per pulse.

When 9. CT/PT item flashes, press the SELECT button to enter CT, Pr input window.

It proceeds in the order of Set CT, device constant → Set power consumption device → Set connected indoor address.

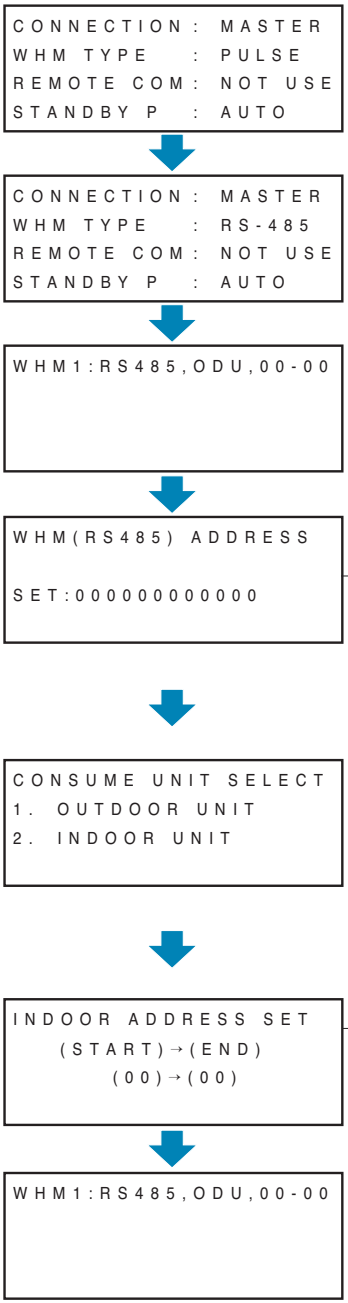
- CT, calibrating constant setting (CT&PULSE RATIO SET)
  * CT: As the device to reduce the current so that the measuring device can take the measurement, enter the rate indicated on the product to the CT item.
    Ex) when using 100:1 CT, enter 100 to the CT item.
  * Pr: As the device constant value, it is displayed as ratio of output pulse per power consumption of wattmeter. For the device constant value, enter the value displayed on wattmeter [Pulse/kWh]
    Ex) when using 2 500 [Pulse/kWh] wattmeter, enter 2 500 to Pr item.
- Power consumption device setting (CONSUME UNIT SELECT)
  : Check whether the product with watt-hour meter installed is outdoor unit or indoor unit first, and perform the setting.
  ※ If one indoor unit is set to use both outdoor unit power distribution and indoor unit power distribution, wattage value is displayed as indoor unit wattage value by summing outdoor unit power distribution value and indoor unit power distribution value.
- Connected indoor unit address setting (INDOOR ADDRESS SET)
  : Input the address of the indoor unit connected to the corresponding watt-hour meter.
  ※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

Setting information is reflected to the detail setting window.

After setting all wattmeters, press the MENU button to save the setting and move to the initial screen.

• When setting RS-485 communication type



In the setting screen, change the wattmeter type to RS-485.

Press the (▼) key at the initial setting screen to enter the wattmeter property setting screen.

When the wattmeter item to set flashes, press the SELECT button to change to detail setting window.

It proceeds in the order of Set wattmeter address → Set power consumption device → Set connected indoor address.

- Set wattmeter address (WHM ADDRESS)
  : For the 485 wattmeter address, enter the 12 digits displayed on the side barcode of 485 wattmeter.
- Set power consumption device (CONSUME UNIT SELECT)
  : Check and set whether the product on which the wattmeter is installed is a indoor or outdoor unit.
  ※ If one indoor unit is set to use both outdoor unit power distribution and indoor unit power distribution, wattage value is displayed as indoor unit wattage value by summing outdoor unit power distribution value and indoor unit power distribution value.
- Set connected indoor address (INDOOR ADDRESS SET)
  : Enter the indoor address connected to applicable wattmeter.
  ※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

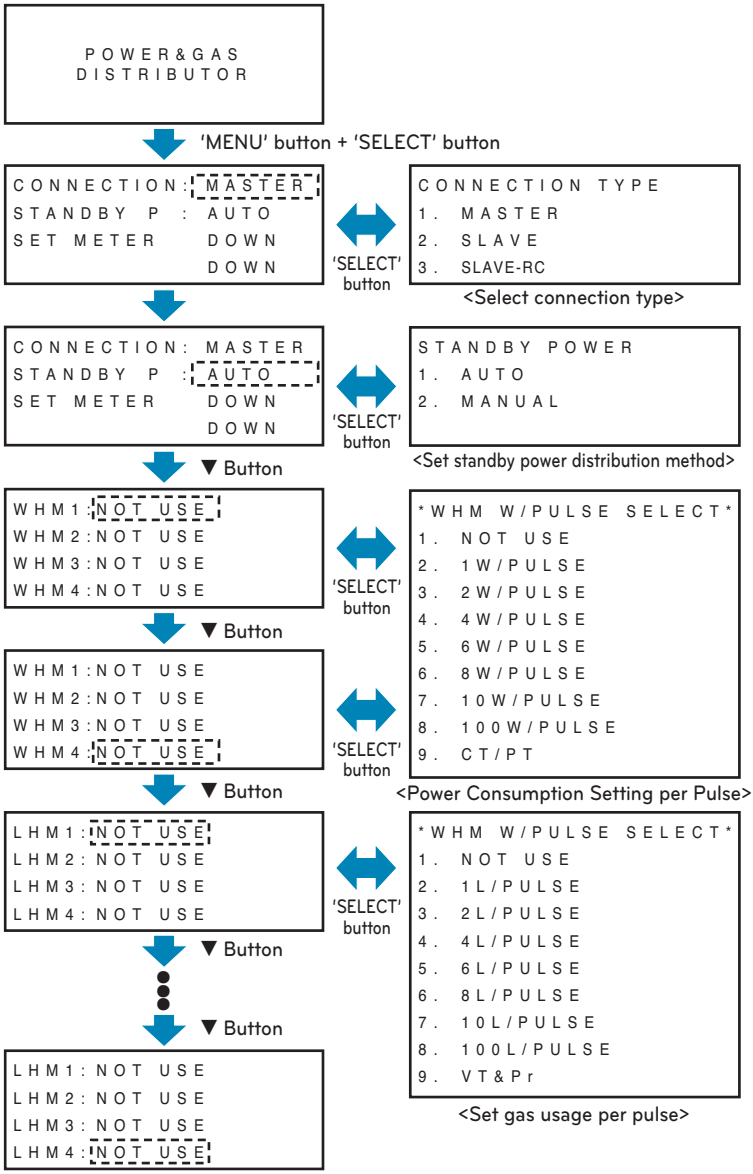
Setting information is reflected to the detail setting window.

After setting all wattmeters, press the MENU button to save the setting and move to the initial screen.

Setting detailed functions (GHP products)

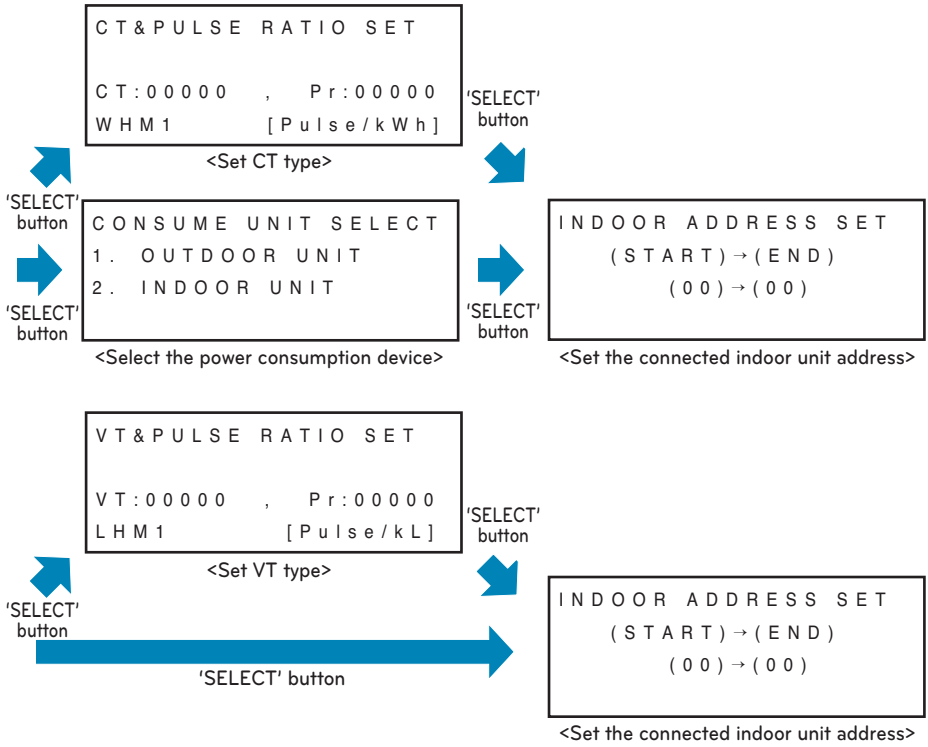
Function Setting Method Flowchart (GHP products)

While GHP product is selected, set the detailed functions of the power indicator with reference to the following flowchart.



⚠ CAUTION

- Power indicator setting only can be changed during the 20 minutes after turning on the power.
  Twenty (20) minutes later, if you need to change settings, turn the power indicator on again.

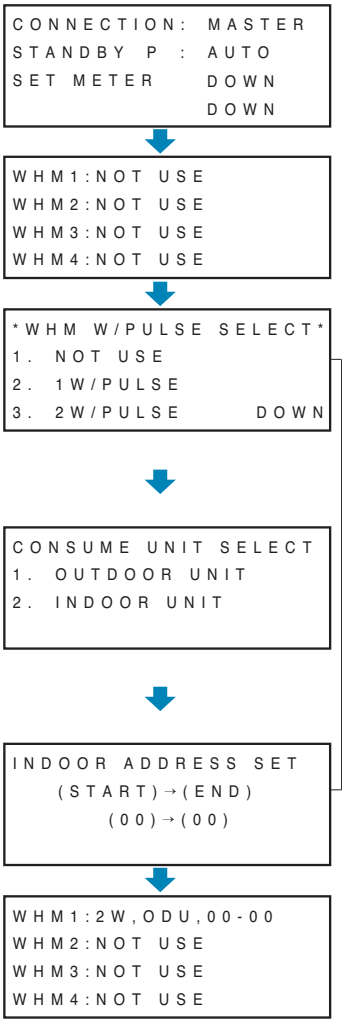


Setting functions (GHP products)

• Set the properties of the wattmeter and gas meter.
- Pulse type: Set power consumption per pulse / gas consumption, mounting location (divide indoor and outdoor unit), and the indoor unit address.
- CT (VT) type: Set CT (VT), the instrument integer value, mounting location (divide indoor and outdoor unit), and the indoor unit address.

WHM1 ~ WHM4: Mount the wattmeter.
LHM1 ~ LHM4: Mount the gas meter.

• When setting the properties of the pulse-type wattmeter (WHM1~ WHM4).



On the Home screen, press the (▼) button and then the screen is switched to the wattmeter / gas meter property setting screen.

When the item of the wattmeter you want to set is blinking, press the SELECT button, and the screen will be switched to the detailed setting screen.

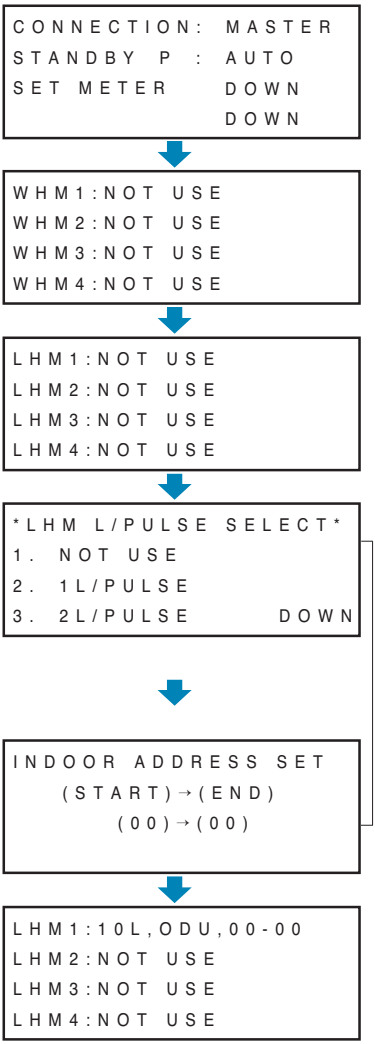
Set power consumption per pulse → set the power consumption device → set the connected indoor unit address in order.
- Set power consumption per pulse (WHM W / PULSE SELECT).
  : Please enter a value shown in the wattmeter as the power consumption recognized per pulse.
- Set the power consumption device (CONSUME UNIT SELECT).
  : Please set up after making sure that the wattmeter is installed, and checking whether the product installed is the indoor or outdoor unit.
  ※ If one indoor unit is set to use both outdoor unit power distribution and indoor unit power distribution, wattage value is displayed as indoor unit wattage value by summing outdoor unit power distribution value and indoor unit power distribution value.
- Set the connected indoor unit address (INDOOR ADDRESS SET).
  : Enter the address of the indoor unit connected to the wattmeter.
  ※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.

After setting the item, press the SELECT button to save the setting, and then move to the next step.

Configuration information is reflected on the detailed setting window.

After setting every wattmeter, press the menu button to save the settings and the screen will be switched to the initial screen.

• When setting the properties of the pulse-type gas meter (LHM1~LHM4)



On the initial setting screen, press the (▼) button and the screen will be switched to the wattmeter / gas meter property setting screen.

On the wattmeter property setting screen, press the (▼) button and the screen will be switched to gas meter property setting screen.

When the item of the wattmeter you want to set is blinking, press the SELECT button, and the screen will be switched to the detailed setting screen.

Set gas consumption per pulse → Set the connected indoor unit address in order.

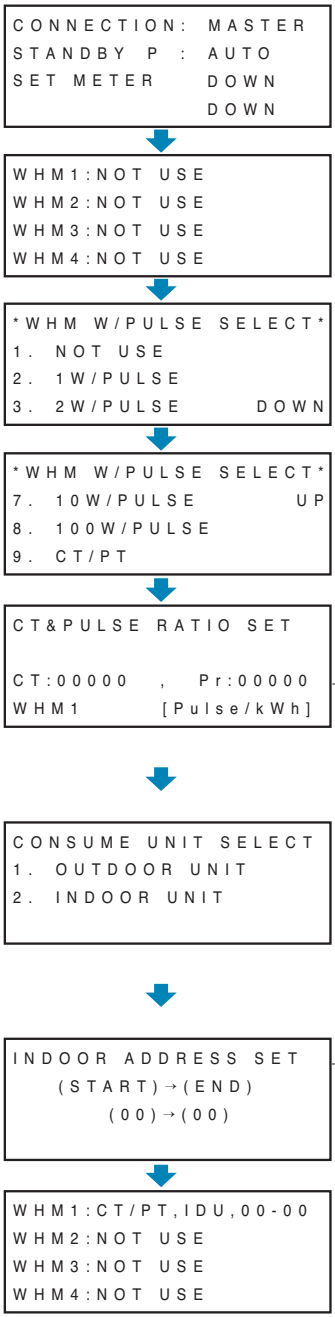
- Set gas consumption per pulse (LHM L / PULSE SELECT).
  : Please enter a value shown in the gas meter as the gas consumption recognized per pulse.
- Set the connected indoor unit address (INDOOR ADDRESS SET).
  : Enter the address of the indoor unit connected to the gas meter.
  ※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.
- Set connected indoor address (INDOOR ADDRESS SET)
  : Enter the indoor address connected to applicable wattmeter.

After setting the item, press the SELECT button to save the settings, and then move to the next step.

Configuration information is reflected in the detailed setting window.

After setting every gas meter, press the menu button to save the settings, and then move to the initial screen.

• When setting the properties of the CT-type wattmeter (WHM1~WHM4)



On the initial setting screen, press the (▼) button and then will be switched to the wattmeter / gas meter property setting screen.

When the item of the wattmeter you want to set is blinking, press the SELECT button, and the screen will be switched to the detailed setting screen.

On the screen of the power consumption per pulse, press the (▼) button to select the item of CT/PT.

When the item of CT/PT is blinking, press the SELECT button, and the screen will be switched to the screen where CT&PULSE RATIO SET is entered.

It proceeds in the order of Set CT, device constant → Set power consumption device → Set connected indoor address.

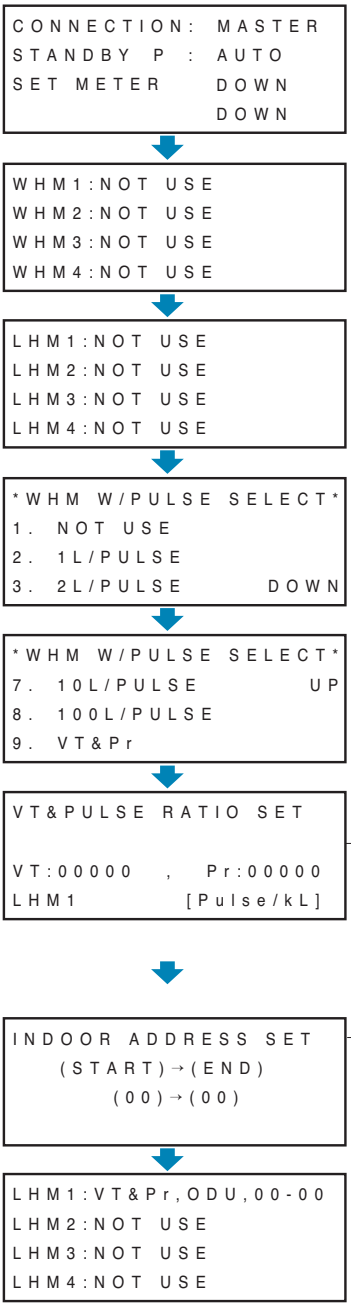
- CT, calibrating constant setting (CT&PULSE RATIO SET)
  * CT: As the device to reduce the current so that the measuring device can take the measurement, enter the rate indicated on the product to the CT item.
    Ex) when using 100:1 CT, enter 100 to the CT item.
  * Pr: As the device constant value, it is displayed as ratio of output pulse per power consumption of wattmeter. For the device constant value, enter the value displayed on wattmeter [Pulse/kWh]
    Ex) when using 2 500 [Pulse/kWh] wattmeter, enter 2 500 to Pr item.
- Power consumption device setting (CONSUME UNIT SELECT)
  : Check whether the product with watt-hour meter installed is outdoor unit or indoor unit first, and perform the setting.
  ※ If one indoor unit is set to use both outdoor unit power distribution and indoor unit power distribution, wattage value is displayed as indoor unit wattage value by summing outdoor unit power distribution value and indoor unit power distribution value.
- Connected indoor unit address setting (INDOOR ADDRESS SET)
  : Input the address of the indoor unit connected to the corresponding watt-hour meter.
  ※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

The set information is reflected on the detailed setting window.

After setting every Watt-hour meter, press the menu button to save the settings, and then move to the initial screen.

• When setting the properties of the VT & Pr gas meter (LHM1~LHM4)



On the initial setting screen, press (▼) button, and the screen will be switched to the wattmeter/gas meter property setting screen.

On the wattmeter setting screen, press (▼) button, and the screen will be switched to the gas meter property setting screen.

When the item of gas meter you want to set is blinking, press the SELECT button, and the screen will be switched to the detailed setting window.

On the gas consumption setting screen, press (▼) button to select the item of VT & Pr.

When the item of VT & Pr is blinking, press the SELECT button, and the screen will be switched to the screen where VT & PULSE RATIO SET is entered.

Set VT & Pr → Set the connected indoor unit address in order.

- Set VT type (VT & PULSE SELECT).

: You may set a value of gas meter per pulse as VT & Pr is set.

If VT = P_1, Pr = P_2,

* Gas consumption per pulse = $P_1 * \frac{1\,000}{P_2}$ (ℓ / Pulse)

Example) If you want to use 1 000 ℓ / pulse gas meter, Pr is set to a 1 with VT: 1.

- Connected indoor unit address setting (INDOOR ADDRESS SET)

: Input the address of the indoor unit connected to the corresponding watt-hour meter.

※ After the initial installation, address setting of indoor unit connected to each port shall not be changed. If it is changed, previous data cannot be used.

After setting the item, press the SELECT button to save the settings, and then move to the next step.

Information on the set items and values is reflected in the detailed settings window.

After setting every gas meter, press the menu button to save the settings, and then move to the initial screen.

How to Use Power Indicator (EHP products)

Description of power indicator function

The power indicator is the product that provides the function of displaying the power consumed in the LG Electronics System Air Conditioner by distributing by each connected indoor unit.

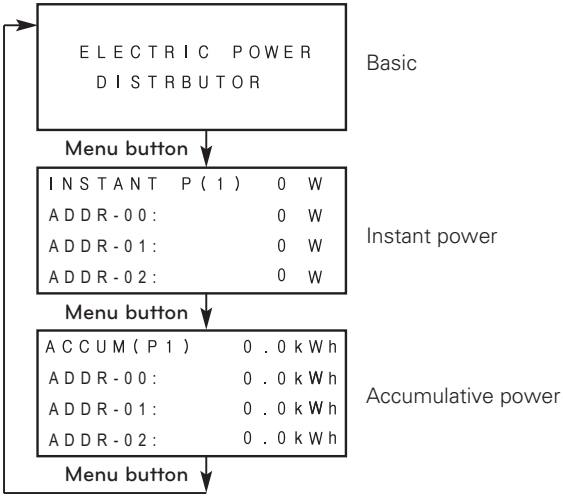
- Wattmeter that can be interlocked: As the cumulative wattmeter, it can interlock with pulse output or RS-485 communication product.
- Number of units that can be interlocked: Maximum of 128 rooms (127 rooms if standby power is displayed)
- LCD power display function: Instant power, cumulative power and error are displayed through the LCD.
- Data save function during power outage: This function saves the data in an event of unexpected power outage.
- LED display function: When power, communication or pulse is connected, the applicable LED flashes so that the operation can be checked.

How to distribute electric energy

- Power consumption of 1 room indoor unit = Total power consumption of outdoor unit x (Weight of indoor unit / Weight of all indoor units)
- Weight of the indoor unit can be calculated based on the information including whether the product operates, product capacity and whether the compressor operates and indoor fan level etc.

Checking electric energy display

The electric energy can be checked by pressing the MENU button from the default screen to check in the order of instantaneous power and accumulative power.



⚠ CAUTION

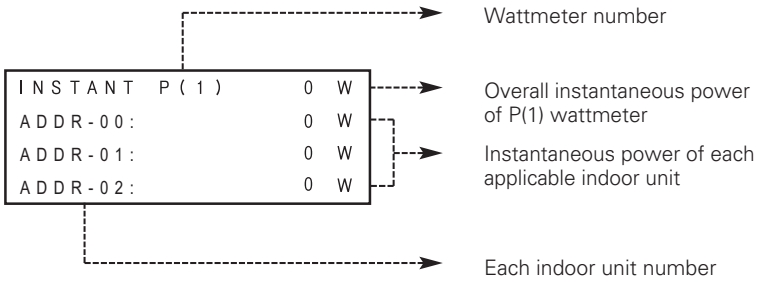
- This measuring system uses a proprietary method unique to LG Electronics and has not legal basis.
- Version 1.15 or lower, The number indicates not the address of the indoor unit, but the sequential order of each indoor unit.
- Version 1.16 or higher, the number indicates the address of the indoor unit.(version 1.16 or higher : decimal, version 1.18 or higher : hexadecimal)

• Checking instantaneous power (Instantaneous Power)

Instantaneous power: As the power consumption per minute, it is refreshed every 1 minute.

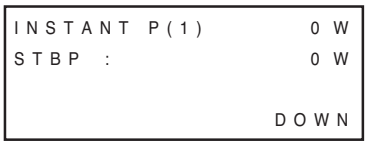
*Example of instantaneous power consumption
: When 100 W is displayed, if it is used with the current power consumption for 1 hour, 100 Wh will be consumed.

- Screen Description



- Press the LEFT/RIGHT (◀,▶) button to increase/decrease the wattmeter number.
- Press the UP/DOWN (▲,▼)button to check the electric energy of all indoor units connected.

- If the standby power is set to Manual, the last page is displayed as follows.

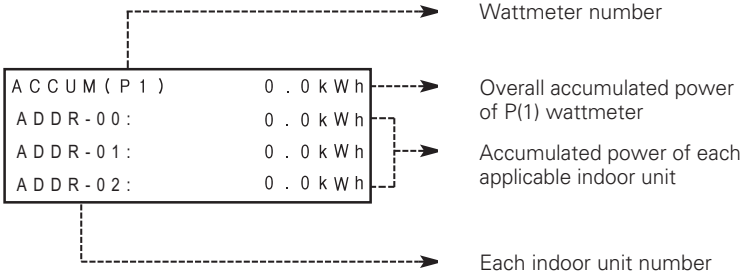


• Checking accumulative power

Accumulative power: After the power is initially connected to the power indicator, the values are accumulated.

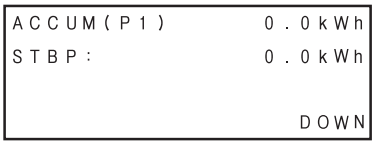
If the displayed electric energy is 999 999 or above, it will return to 0.

• Screen Description

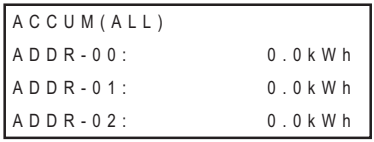


- Press the LEFT/RIGHT (◀, ▶) button to increase/decrease the wattmeter number.
- Press the UP/DOWN (▲,▼)button to check the electric energy of all indoor units connected.

- If the standby power is set to Manual, the last page is displayed as follows.



- If you press left/right button(◀, ▶), it is displayed as follows in the last page.
  You can check the entire indoor units' accumulated power for each address in this screen.



⚠ CAUTION

- According to watt-hour meter and PDI installation time, the final accumulated value displayed by each may be different.
- During the ACP/Smart interface, if you set the e-mail, e-mail alarm is sent when wattage distribution cannot be made by special conditions.
- PDI accumulated power value is not initialized.
- When you change the indoor unit address, you can check the accumulated power amount of each indoor unit address that is not set to each port in ACCUM(ALL) screen.

How to Use the Power Indicator (GHP products)

Description of the Power Indicator Function

The power indicator is a product that provides the function of displaying the power consumed in the LG Electronics System Air Conditioner distributed to each connected indoor unit.

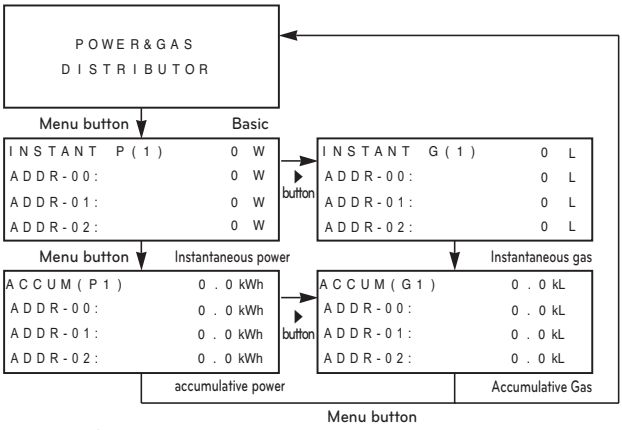
- Wattmeter that can be interlocked: As the cumulative wattmeter, it can interlock with pulse output product.
- Gas meter that can be interlocked: As the cumulative gas meter, it can interlock with pulse output product.
- Number of indoor units that can be interlocked: Maximum of 64 units
- LCD display function: Instant power/cumulative power and instant gas/cumulative gas and error are displayed through the LCD.
- Data save function during power outage: This function saves the data in an event of unexpected power outage.
- LED display function: When power, communication or pulse is connected, the applicable LED blinks so that the operation can be checked.

How to distribute electric energy or gas usage

- Power consumption of 1 room indoor unit(gas) = Total power consumption of outdoor unit(gas) x (Weight of indoor unit / Weight of all indoor units)
- Weight of each indoor unit can be calculated based on the information including whether the product operates, product capacity and whether the compressor operates and indoor fan level, etc.

Checking electric energy and gas consumption display

The electric energy and gas consumption can be checked by pressing the MENU button from the default screen to check in the order of instantaneous power and accumulative power.
On the screen of instantaneous power, accumulative power, press the (▶) button to check the instantaneous gas, and accumulative gas.



⚠ CAUTION

- This measuring system uses a proprietary method unique to LG Electronics without legal basis.
- Version 1.15 or lower, The number indicates not the address of the indoor unit, but the sequential order of each indoor unit.
- Version 1.16 or higher, the number indicates the address of the indoor unit.(version 1.16 or higher : decimal, version 1.18 or higher : hexadecimal)

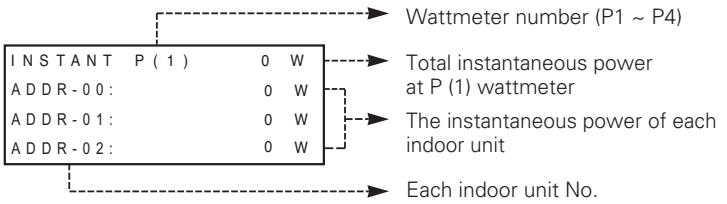
• Checking the instantaneous power (1 ~ 4 ports)

Instantaneous power: It is the power consumption value for one minute which is updated every 1 minute.

*Example of instantaneous power consumption

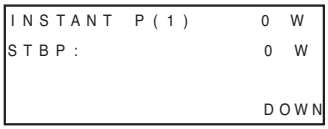
: When 100 W is displayed, if it is used with the current power consumption for 1 hour, 100 Wh will be consumed.

- Screen Description



- Press the LEFT/RIGHT (◀,▶) button to increase/decrease the wattmeter meter number.
- Press the UP/DOWN (▲,▼)button to check the electric energy of all indoor units connected.

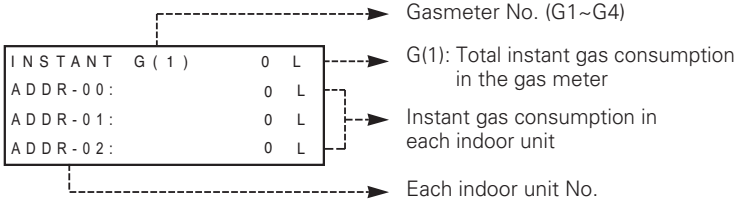
- When you set Standby power manually, the last page will display as below.



• Confirming the instantaneous gas consumption (Instantaneous Gas) (5 ~ 8 ports)

Instantaneous gas: It is a gas consumption value for 1 minute which is refreshed every 1 minute.

- Screen Description

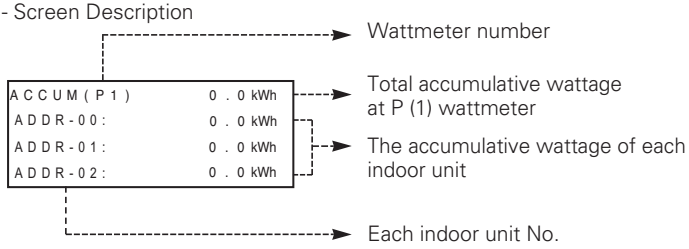


- Press the LEFT/RIGHT (◀,▶) button to increase/decrease the gas meter number.
- Press the UP/DOWN (▲,▼)button to check the gas energy of all indoor units connected.

❇ In the case of gas on, standby gas usage is not displayed separately because there is no standby gas.

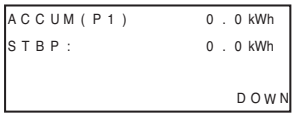
• Checking the accumulative power (Accum Power) (1 ~ 4 ports)
Accumulative power: Values have been continuously accumulated since the initial power is applied on the power indicator. When wattage is more than 999 999, it will return to "0".

- Screen Description



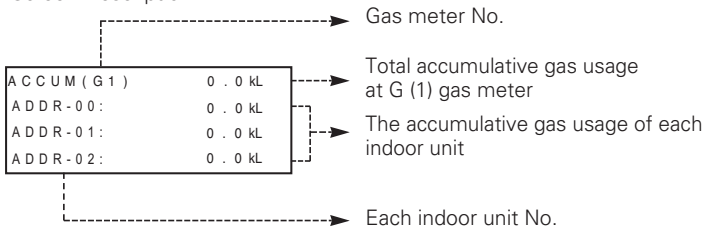
- Press the LEFT/RIGHT (◀, ▶)button to increase/decrease the wattmeter number.
- Press the UP/DOWN (▲, ▼)button to check the electric energy of all indoor units connected.

- If the standby power is set to Manual, the last page is displayed as follows.



• Checking the accumulative gas consumption (Accumulative Gas) (5 ~ 8 ports)
Instant gas: Values have been accumulated since the initial power is applied at the gas meter. When the displayed gas usage is more than 999 999, it will return to "0".

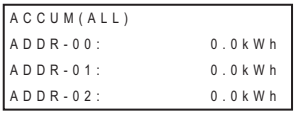
- Screen Description



- Press the LEFT/RIGHT (◀, ▶)button to increase/decrease the wattmeter number.
- Press the UP/DOWN (▲, ▼)button to check the gas energy of all indoor units connected.

❊ In the case of gas on, standby gas usage is not displayed separately because there is no standby gas.

- If you press left/right button(◀, ▶), it is displayed as follows in the last page.
In this screen, you can check the accumulated power amount (gas usage amount) of each address for the entire indoor units.



⚠ CAUTION

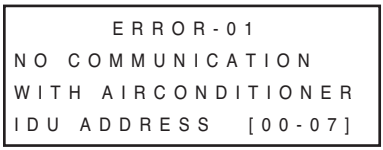
- According to watt-hour meter/gas meter and PDI installation time, the final accumulated value displayed by each may be different.
- During the ACP/Smart interface, if you set the e-mail, e-mail alarm is sent when wattage and gas usage amount distribution cannot be made by special conditions.
- PDI accumulated power value and accumulated gas usage value are not initialized.
- When you change the indoor unit address, you can check the accumulated power amount (gas usage amount) of each indoor unit address that is not set to each port in ACCUM(ALL) screen.

Error display

If the communication with the air conditioner is not smooth or if the pulse signal is not detected from the wattmeter, the error will be displayed on the LCD.

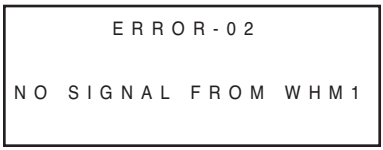
• Communication error display

- If there is no communication with the indoor unit product for 3 minutes, it displays an error.
- During communication error status, power consumption (gas consumption) is reflected on the accumulative power (accumulative gas).
- No power(gas) is distributed to each indoor unit. When communication is resumed, accumulative power (gas) is distributed to each indoor unit.



• No signal error in the wattmeter (gas meter)

- Error is displayed when there is no signal from the pulse detection in the option-set wattmeter (gas meter) (When no pulse is detected even when 1 or more unit doors are operating)



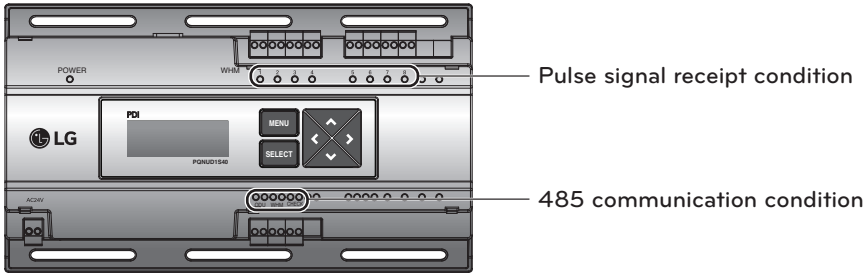
⚠ CAUTION

- In the case of no signal error in the wattmeter (gas meter)
  As outdoor unit power consumption (gas consumption) is low, if no pulse is displayed for a certain time, error may be displayed. As soon as pulse is applied, error indication disappears.

Operating condition display

LED condition display

- Power LED (Red): When on, it shows that the product is in operation.
- Communication LED (Green, Red)
: Central controller, 485 wattmeter, remote reading device and 485 communication condition are displayed.
Green LED ON: Signal sent
Yellow LED ON: Signal received
- The wattmeter (gas meter) receives pulse (yellow): The connected wattmeter (gas meter) displays the pulse signal reception status.
When pulse signal is input, the LED blinks (once per pulse).



- When the power is connected initially, all LEDs are turned on.
- If the pulse signal receipt condition display LED is continuously ON, it could mean that there is a short circuit between the two terminals. Please check.

(If you are using a mechanical gas meter, depending on when operation is stopped, the LED may be on sometimes.)